

**In the Claims:**

The following claim set replaces all prior versions.

Claims 1-20 (Cancelled).

21. (New) A method of inducing or regulating, directly or indirectly, the immune response of an individual and/or ex vivo cell population to an antigen by using axotrophin or a polypeptide or polynucleotide encoded by or derived from axotrophin.
22. (New) A method according to claim 21 in which the immune response is in a vertebrate wherein the individual has a tissue or cell transplant.
23. (New) A method according to claim 21 in which the response of the immune system to a given antigen in an individual is manipulated the method comprising administering to the individual axotrophin or a polypeptide or polynucleotide encoded by or derived from axotrophin or a substance that enhances the amount or activity of polypeptide expressed directly or indirectly by axotrophin.
24. (New) A method according to claim 23 comprising potentiating or increasing the aggressive response of the immune system of an individual against an antigen, the method comprising administering to the individual a substance that decreases the amount or activity of a polypeptide expressed directly or indirectly by axotrophin.
25. (New) A method according to claim 21 for determining immune status of an individual, the method comprising determining the level of expression of axotrophin or a polypeptide or polynucleotide encoded by or derived from axotrophin in a test sample comprising tissue, cells and/or bodily fluid removed or obtained from the individual and comparing the level for the test sample with that of a control sample, wherein a level in the test sample greater than that of the control sample is indicative that the immune status in the

individual comprises a tolerant immune response, or wherein a level in the test sample lower than that of the control sample is indicative that the immune status in the individual comprises an aggressive immune response.

26. (New) Isolated axotrophin, a polynucleotide or a polypeptide encoded by or derived from axotrophin.
27. (New) Isolated axotrophin polypeptide as claimed in claim 26 produced by a method comprising growing a culture of cells in a culture medium under conditions permitting expression of the axotrophin polypeptide, and purifying the polypeptide from the culture or from the host cells.
28. (New) A diagnostic method for detecting axotrophin or a polynucleotide or polypeptide encoded by or derived from axotrophin comprising:
  - (a) contacting a sample to be tested for the presence of a polynucleotide or polypeptide encoded by or derived from axotrophin with a compound that binds to a polynucleotide or polypeptide encoded by or derived from axotrophin;
  - (b) determining whether the compound binds to a component of the sample; and
  - (c) detecting the formation of a complex, formed between the agent and the protein or polynucleotide and such that if a complex is formed, the polypeptide or polynucleotide is detected.
29. (New) A diagnostic method according to claim 28 for assessing the immune response of an individual comprising obtaining a test sample from the individual, incubating the test sample with one or more of the antibodies to or polynucleotide probes for axotrophin or a polynucleotide or polypeptide encoded or derived from axotrophin and assaying for binding of the polynucleotide probes or antibodies to a component within the test sample.
30. (New) A method according to claim 28 wherein step (c) comprises testing with an ex vivo immune cell population.

31. (New) A method according to claim 29 wherein step (c) comprises testing with an ex vivo immune cell population.
32. (New) A method according to claim 28 wherein step (c) comprises testing in vivo.
33. (New) A method according to claim 29 wherein step (c) comprises testing in vivo.